DOCUMENT RESUME

ED 083 239 SP 007 439

AUTHOR	Conrad, C. Carson
TITLE	Physical Conditioning through Water Exercises.
INSTITUTION	President's Council on Physical Fitness and Sports, Washington, D.C.
PUB DATE	73
NOTE	20p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Athletic Activities; Exercise (Physiology); *Physical Fitness; *Swimming

ABSTRACT

This document describes activities in an aquatic program designed for an individual in sound health. Instructions for performing each activity are given in step-by-step outline form. The activities are arranged under the following categories: standing water drills; pool-side standing drills; gutter holding drills; bobbing (various forms); extensions (various forms); other water exercises; lap swimming; and workouts. (JA)

ED 083239

PRESIDENT'S COUNCIL ON PHYSICAL FITNESS AND SPORTS

PHYSICAL CONDITIONING THROUGH WATER EXERCISES

by
C. CARSON CONRAD

NOV 27 1973

Swimming is recognized as America's most popular active sport. It is one of the best physical activities for people of all ages and for many persons who are handicapped. Vigorous water activities can make a major contribution to the flexibility, strength, and circulatory endurance of individuals.

The President's Council on Physical Fitness and Sports cited the value of water activities in improving the blood circulation as follows, "With the body submerged in water, blood circulation automatically increases to some extent; pressure of water on the body also helps promote deeper ventilation of the lungs; and with well-planned activity, both circulation and ventilation increase still more."[1]

Cities, schools and other public agencies build more than 3,000 swimming centers each year and hotels, motels, and apartments build over 4,000. However, the overwhelming statistic in swimming pool construction in the United States is the number of private backyard residential pools which are built. Last year, over 73,000 residential pools having structural walls below the ground were constructed in the United States; this did not include the more than 110,000 pools which were sold as a package and installed above the ground. There are nearly one million residential pools with walls constructed below the ground in this country. Of these, over 300,000 are in California.

Most residential pools are no larger than 36 feet long by 17 feet wide, with approximately 600 square feet of water surface, ranging from 3 feet to 8½ feet in depth. In a swimming pool of this size, a workout would have to be adjusted considerably from that usually practiced in the typical school, college or athletic club pool. Otherwise, swimming in the backyard pool becomes largely diving in, gliding across, and climbing out for the vigorous individual. For the typical person it would involve only inactive bathing. Swimming pools, regardless of size, have a high potential as exercise facilities. This potential can be realized as individuals learn how to exercise in limited water areas.

---

[1] Adult Physical Fitness, President's Council on Physical Fitness and Sports, Washington, D.C. 20201

SP 007 439

FILMED FROM BEST AVAILABLE COPY

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

The activities in this aquatic program are designed for the individual in sound health. A yearly medical examination is advisable for every adult. Such an examination should be taken before beginning a conditioning program.

Special Note: Exercise programs should be adapted to each person's tolerance level - the level at which he can perform comfortably and without undue distress. In order for workouts to be comfortable and continuous, and to achieve maximum potential, a combination system of training should be employed, using both "change of pace" and "interval training." Change of pace consists of the shifting from one activity to another involving a different set of muscles or type of stress and the changing of the intensity of the work. Interval training is interspersing repeated periods of physical work with recovery periods during which activity of a reduced intensity is performed.

Warming Up

During a workout the body should be warmed up by light conditioning and stretching exercises before heavier activities are attempted. Deck exercises including flexibility and strength activities with heavy breathing are appropriate. Various strokes may be simulated. Participants should begin with light rhythmical work at a slow pace. A tempo should be gradually accelerated alternating slow with faster work until one nears perspiration.

Most swimming activities cause the back to be in a hyperextension position, thus specific back stretching exercises should be completed both at the beginning and end of the workout. For maximum contribution, the individual should stand with legs apart, extending the hands high over head and reaching as high as is possible. After approximately 10 seconds in the arms-over-head reaching position, one should bend the trunk forward and down, flexing the knees, and bending and stretching position should be held for approximately 30 seconds, then the high reaching, bending and stretching action should be repeated.

Through proper warm-up the body's deep muscle temperature will be raised and the ligaments and connecting tissues stretched, thereby preparing the body for vigorous work. This will help avoid injury and discomfort.

Following is a regimen of high potential fitness activities which can be used in a small pool or in a limited area of a crowded instructional pool.

STANDING WATER DRILLS

Alternate Toe Touch

Standing, in waist to chest deep water, swimmer:

(1) Raises left leg bringing right hand toward left foot looking back and left hand extended rearward.

(2) Recover to starting position.

Repeat.

Reverse.

Side Straddle Hop

Standing in waist-to-chest deep water with hands on hips, swimmer:

(1) Jumps sideward to position with feet approximately two feet apart.

(2) Recovers.

Stride Hop

Standing in waist to chest deep water with hands on hips, swimmer:

(1) Jumps with left leg forward and right leg back.

(2) Jumps changing to right leg forward and left leg back.

Repeat.

Toe Bounce

Standing in waist to chest deep water with hands on hips, swimmer:

(1) Jumps high with feet together through a bouncing movement of the feet.

Repeat.

Raise on Toes

Standing in chest deep water, swimmer:

(1) Raises on toes.

(2) Lowers to starting position.

Repeat.

Accelerate.

Side Bender

Standing in waist deep water with left arm at side and right arm over head, swimmer:

(1) Stretches slowly bending to the left.

(2) Recovers to the starting position.

Repeat.

Reverse to right arm at side and left arm overhead.

Standing Crawl

Standing in waist-to-chest deep water, swimmer:

(1) Simulates the overhand crawl stroke by:

(a) Reaching out with the left hand, getting a grip on the water, pressing downward and pulling, bringing the left hand through to the thigh.

(b) Reaching out with the right hand, etc.

Repeat.

Walking Twists

With fingers laced behind neck, swimmer:

(1) Walks forward bringing up alternate legs twisting body to touch knee with opposite elbow.

Repeat.

Bounding in place with Arm Stretch

Standing, swimmer:

(1) Bounds in place with high knee action with right arm outstretched far forward when left knee is high, and

(2) When right knee is high, outstretches the left arm forward.

Repeat.

POOL-SIDE STANDING DRILLS

Flat Back

Standing at side of pool in waist to chest deep water, swimmer:

(1) Presses back against wall holding for six counts.

(2) Relax to starting position.

Repeat

Leg Out

Standing at side of pool with back against wall, swimmer:

(1) Raises left knee to chest.

(2) Extends left leg straight out.

(3) Stretches leg.

(4) Drops leg to starting position.

Repeat.

Reverse to right leg.

Pull and Stretch

Standing at side of swimming pool with back against wall, swimmer:

(1) Raises left leg and clasps calf with both arms pulling leg vigorously to the chest.

(2) Recovers to starting postion.

(3) Raises right leg and clasps calf with both arms pulling leg vigorously to the chest.

(4) Recovers to the starting position.

GUTTER HOLDING DRILLS

Pool-Side Knees Up

On back holding on to pool gutter with hands and with legs extended, swimmer:

(1) Brings knees to chin.

(2) Recovers to the starting position.

Repeat

Twisting

On back holding on to pool gutter with legs extended, swimmer:

(1) Twists slowly to left.

(2) Recovers.

(3) Twists slowly to right.

(4) Recovers.

Repeat.

Knees Up Twisting

On back holding on to pool gutter with knees drawn up to chest, swimmer:

(1) Twists slowly to left.

(2) Recovers.

(3) Twists slowly to right.

(4) Recovers.

Repeat.

Raising Hips

Prone holding on to pool gutter with one hand flat on wall to push legs out, swimmer:

(1) Raises hips holding for four counts.

(2) Relaxes.

Repeat.

Circle Legs

Prone holding on to pool gutter with one hand flat on pool wall to push legs out, swimmer:

(1) Circles legs outward left.

Repeat.

Reverse to right.

Repeat.

Circle Ankes

Prone holding on to poll gutter, swimmer:

(1) Circles ankles left.

Repeat.

Reverse to right.

Leg Crosses

Supine, holding on to pool gutter with legs extended, swimmer:

(1) Swings legs far apart.

(2) Brings legs together crossing left leg over right.

(3) Swings legs far apart.

(4) Brings legs together crossing right leg over left.

Repeat.

Leg Swing Outward

Standing with back against poolside, and hands sideward holding gutter, swimmer:

(1) Raises left foot as high as possible with leg straight.

(2) Swings foot and leg to left side.

(3) Recovers to starting position by pulling left leg vigorously to right.

Repeat.

Reverse to right leg.

Repeat.

Climbing

Hands in pool gutter, facing pool side and feet flat against side and approximately 16" apart, swimmer:

(1) Walks up side by approximately six short steps.

(2) Walks down side to starting position.

Repeat

Front Flutter Kicking

Lying in a prone position and holding on to side of pool with hand(s) swimmer:

(1) Kicks flutter style in which toes are pointed back, ankles are flexible, knee joint is loose but straight and the whole leg acts as a whip.

Back Flutter Kicking

Lying in a supine position and holding on to sides of pool with hand(s) swimmer:

(1) Flutter kicks.

Left Side Flutter Kicking

Lying on a side position holding on to side of pool with right hand, with left hand braced on pool wall, swimmer:

(1) Flutter kicks.

Right Side Flutter Kicking

Lying on right side position, holding on to side of pool with left hand braced on pool wall, swimmer:

(1) Flutter kicks.

BOBBING

An excellent conditioning activity in water is "bobbing." In "bobbing," the head and shoulders are pushed out of the water much like a cork held under water "bobs" when released. "Bobbing" is a feet first surface dive. Some experts say that if one had only five minutes for exercise each day, it would be best to spend that time in "high bobbing." Approximately 20 percent of the Aquatics

Fitness Demonstrations of the President's Council on Physical Fitness and Sports is spent in "bobbing."

Elementary Bobbing

Standing in shallow water, swimmer:

(1) Takes a breath.

(2) Submerges in a tuck position with feet on the pool bottom in shallow water. Exhales during (2) and (3).

(3) Shoves off the bottom and regains a standing position.

(4) Inhales with head out of water.

(5) Swimmer repeats (2), (3), (4), etc.

Alternate Leg Rearward Bobbing

Standing in shallow water, swimmer:

(1) Takes a breath.

(2) Submerges in shallow water with left leg in a squatting position with left foot on the pool bottom and right leg extended rearward. Exhales during (2) and (3).

(3) Shoves up off the bottom reversing the position of the legs, inhaling when the head is out of water.

(4) Submerges with right leg in a squatting position with right foot on pool bottom and left leg extended rearward. Exhales during the action.

(5) Repeats 1, 2, 3, and 4.

Alternate Leg Sideward Bobbing

Standing in waist to chest deep water, swimmer:

(1) Takes a breath.

(2) Submerges with left leg in a full squatting position, left foot on pool bottom and right leg extended sideward, (exhales during (2) and (3)).

(3) Shoves up off bottom reversing the position of the legs and inhaling when the head is out of water.

(4) Submerges with the right leg in a full squatting position with the right foot on pool bottom and the left leg extended sideward (exhales during the action).

Repeat.

Legs Astride Bobbing

Standing in waist to chest deep water, swimmer:

(1) Takes a breath.

(2) Submerges with legs astride, left leg forward and right leg rearward, (exhales on (2) and (3)).

(3) Shoves off bottom reversing the position of the legs and inhaling when the head is out of water.

(4) Submerges with the legs astride, right leg forward and left leg rearward.

Repeat.

Legs Sideward Bobbing

Standing in waist to chest deep water, swimmer:

(1) Takes a breath.

(2) Submerges with legs sideward (left leg extended to left side and right leg to right side). Exhales.

(3) Shoves off bottom, inhaling when head is out of water.

(4) Submerges with legs sideward.

Repeat.

Advanced Bobbing

Treading in deep water, swimmer:

(1) Assumes a vertical position with hands extended outward from the sides, just under the surface of the water, with palms turned downward. Legs are drawn in a position of readiness for a frog or scissors kick.

(2) Executes kick as hands are pulled sharply to thighs and legs. (As a result of this action, the head and shoulders rise out of the water and a deep breath is taken at the highest point reached.)

(3) As the body sinks, the arms are outstretched overhead and swimmer exhales.

Repeats (1), (2), and (3).

Left/Right Leg Bobbing

Standing or treading in deep water, swimmer

(1) Takes a breath.

(2) Submerges in a tuck with right leg drawn up with left foot on pool bottom.

(3) Pushes upward off left leg thrust, exhaling during (1) and (2).

(4) Inhales with head out of water.

(5) Repeat

Reverse to right leg.

Progressive Alternate Leg Forward Bobbing

Standing, swimmer:

(1) Performs action described in Alternate Leg Rearward Bobbing (page 9), alternating legs, bobbing progressively, and moving forward the length of the pool or a specified distance.

Progressive "Bunny Hop" Bobbing

Standing, swimmer:

(1) Takes a breath.

(2) Submerges in a tuck or full squatting position with feet on the pool bottom.

(3) Pushes up and forward off bottom of the pool, exhaling during (2) and (3).

(4) Inhales with head out of water.

(5) Repeat, pushing forward the length of the pool or a specified distance.

High Bobbing

In water approximately one to three feet over the swimmer's head, swimmer:

(1) Takes a vertical position, hands extended outward from the sides with palms turned downward. Legs are drawn in position for frog kick.

(2) Simultaneously pulls hands sharply to thighs with legs executing frog kick.

(3) Inhales at peak of height.

(4) Drops with thrust of arms downward with palms turned upward until feet reach bottom of the pool and tucks to a squat position. Exhales throughout this action.

(5) Jumps upward with power leg thrust at the same time pulling arms in a breast stroke position downward, causing the head and shoulders to rise high out of water. Exhales during (4) and (5).

(6) Inhales and repeats cycles (4) and (5), etc.

Power Bobbing

Power bobbing is similar to "High Bobbing" except that at the top of the upward thrust the hands scull vigorously as the legs flutter kick. In "Power Bobbing" the swimmer will literally blast out of the water exposing all of the body to the hips.

Bobbing is a well-rounded workout involving leg power, arm and shoulder work, heavy forced breathing, and thythmical vigorous action.

TREADING WATER

Elementary Treading

In water deep enough that toes will not touch bottom, in a perpendicular position, swimmer:

(1) Sculls or fins as he kicks bicycle leg action, scissors, or frog style.

Advanced Treading

In water over head in a perpendicular position, swimmer:

(1) Kicks bicycle, scissors, or frog style with hands held shoulder high and body in a perpendicular position.

One Hand High Treading

In water over head in a perpendicular position, swimmer:

(1) Kicks bicycle, scissors, or frog style holding one arm straight up and other hand held shoulder high

Reverse arms.

Two Hand High Treading

In water over head in a perpendicular position, swimmer:

(1) Kicks bicycle, scissors, or frog style holding both arms straight up out of water

Look-Out Treading

In deep water in a perpendicular position, swimmer:

(1) Kicks vigorously at the same time thrashing the water by sculling thereby raising the shoulders and chest high out of the water.

EXTENSIONS

Special Note: Controlled breathing is essential for the activities which follow. The swimmer should inhale through the mouth and exhale through the nose. One should be exhaling through the nose at any time the head is under water.

Sculling

"Extension" activities are largely dependent upon sculling ability. Sculling is done by arm and hand action. The use of the hands in sculling is the same basic maneuver regardless of the position of the body or the direction one wishes to go. Sculling can provide lifting power or combined lifting and propulsion power. Action usually begins with palms at side. Wrist is rotated turning the palm downward and outward creating an angled surface. Lifting power is provided as the hand is drawn to the side and parallel to the water surface. The hands are held flat, fingers together and straight, and thumbs held close to the forefingers.

Propulsion is provided by pushing backward and inward but not downward. The wrist and hand are the major body parts involved in sculling, but rotation also occurs at the elbow and shoulder. Actually the muscles of the whole arm are involved. Arm action may be performed by or by not bending the elbow. The ability to scull properly cannot be overemphasized as a basic skill for water activities.

On all "extension" activities which follow, swimmer should stay in the same place in the pool.

Left Knee Up, Back

Assuming a supine position, swimmer:

(1) Sculls drawing left knee up to chest with right leg extended and toes on the right foot out of water.

(2) Sculls straightening the left leg thus returning to the starting position.

Repeat.

Right Knee Up, Back

Assuming a supine position, swimmer:

(1) Sculls drawing right leg up to chest with left leg extended and toes on the left foot out of water.

(2) Sculls straightening the right leg thus returning to the starting position.

Repeat.

Knees Up, Back

Starting from a back-lying position, swimmer:

(1) Sculls, drawing knees up to chest.

(2) Sculls, shoving legs forward returning to a back-lying position.

Repeat.

Knees Up, Front

Starting from a front-lying position, swimmer:

(1) Sculls, drawing knees up to chest.

(2) Sculls, shoving legs backward returning to the front-lying position.

Repeat.

Knees Up, Left Side

Starting from a left sidestroke position, swimmer:

(1) Sculls, drawing knees up to chest.

(2) Sculls, shoving legs to the right side causing the body to be in a left sidestroke position.

Repeat.

Knees Up, Right Side

Starting from a right sidestroke position, swimmer:

(1) Sculls, drawing knees up to chest.

(2) Sculls, shoving legs to left side causing the body to be in a right sidestroke position.

Repeat.

Front and Back

Starting from a vertical position, swimmer:

(1) Sculls drawing knees up to chest, shoving legs forward coming up to a back-lying position.

(2) Sculls drawing knees up to chest, shoving legs backward coming to a front-lying position.

Repeat.

Reverse Sides Extension

Starting from a vertical position, swimmer:

(1) Sculls drawing knees up to chest, shoving legs to left side causing body to be in a right sidestroke position.

(2) Sculls vigorously drawing knees up to chest and reversing position, shoving legs to the right side, shifting body to a left sidestroke position.

Repeat.

OTHER WATER EXERCISES

Pedaling in Water

Starting from a back-lying position in water, swimmer:

(1) Simulates a pedaling motion with knees raised alternately to the chest, using reverse sculling to stay in same place in pool.

Rub-A-Dub-Dub

Starting from a back-lying position in water, swimmer brings knees to chest with knees and toes together, and:

(1) Spins in a circle by using an opposite sculling motion of hands.

(2) After one full turn, reverse action.

Repeat.

Left Leg Raiser*

Starting from a back-lying position, swimmer:

(1) Sculls, continuously bringing left knee to chest until knee is nearly parallel to the surface of the water.

(2) Sculls, straightening the left leg so that the left leg is perpendicular to the water surface.

(3) Returns to (1), the left knee to chest position.

(4) Returns to back-lying position.

Repeat.

Right Leg Raiser*

Starting from a back-lying position, swimmer:

(1) Sculls, continuously, bringing right knee to chest until thigh is nearly parallel to the surface of the water.

(2) Sculls, straightening the right leg so that the right leg is perpendicular to the water surface.

---

* Very difficult for most men.

(3) Returns to (1) the right knee to chest position.

(4) Returns to back-lying position.

Repeat.

Alternate Leg Raiser*

Starting from a back-lying position, swimmer:

(1) Sculls, continuously, bringing left knee to chest until thigh is nearly perpendicular to the surface of the water.

(2) Sculls, straightening the left leg so that the left leg is perpendicular to the water surface.

(3) Returns to (1) the left knee to chest position.

(4) Returns to the back-lying position.

(5) Sculls, continuously, bringing right knee to chest until thigh is nearly perpendicular to the surface of the water.

(6) Sculls, straightening the right leg so that the right leg is perpendicular to the water surface.

(7) Returns to (5), the right knee-to-chest position.

(8) Returns to back-lying position. Continue alternating left and right action.

Double Leg Raiser*

Starting from a back-lying position, swimmer:

(1) Sculls, continuously, bringing knees to the chest until thighs are perpendicular to the surface of the water.

(2) Straightens both legs together extending them skyward so they are nearly perpendicular to the surface of the water.

(3) Returns to the back-lying position.

Repeat.

---

* Very difficult for most men.

LAP SWIMMING

Despite the small distance covered after shove-off the side and glide in the residential pool, lap swimming is still an excellent activity. If the pool is clear, take off and enjoy swimming hard until you begin to feel winded. Ease off by loafing on a lazy breast or sidestroke until you feel recovered, then go again. Another way to begin the interval training program in the swimming pool is to swim one length of the pool, get out, walk back, and repeat a number of times. For an individual in poor physical condition, a regimen of 10 lengths, walking back after each length may be necessary for several weeks or months. As endurance improves the number of lengths should be increased progressively.

If you don't understand interval swimming, refer to Interval Training, The President's Council on Physical Fitness and Sports, Washington, D.C.

WORKOUTS

In order to illustrate how the aforementioned water exercises could be combined in different workouts, the following examples are provided:

Very Low Gear 15 minutes

		Page No.
Side Straddle Hop	15 seconds	3
Standing Crawl	30 seconds	4
Walking Twists	15 seconds	4
Toe Bounce	15 seconds	3
Flat Back	15 seconds	5
Pull and Stretch	30 seconds	5
Leg Out	30 seconds	5
Front Flutter	30 seconds	8
Back Flutter	30 seconds	8
Alternate Leg Rearward Bobbing	60 seconds	9
Leg Swing Outward	30 seconds	7
Bounding in place with Arm Stretch	30 seconds	5
Elementary Treading	30 seconds	12
Lap Swimming - Interval	9 minutes	18

Low Gear 20 minutes

Stride Hop	15 seconds	3
Standing Crawl	30 seconds	4
Front Flutter	1 minute	8
Back Flutter	1 minute	8
Front Flutter	1 minute	8

Low Gear (continued)

		Page No.
Pull and Stretch	30 seconds	5
Leg Swing Outward	1 minute	7
Advanced Bobbing	1 minute	10
Left Knee Up, Back	30 seconds	14
Right Knee Up, Back	30 seconds	14
Alternate Leg Rearward Bobbing	30 seconds	9
Knees Up, Back	30 seconds	14
Alternate Leg Sideward Bobbing	30 seconds	9
Bounding in Place with Arm Stretch	45 seconds	5
Knees up, Front	30 seconds	14
Advanced Bobbing	1 minute	10
Knees Up Left	30 seconds	15
Knees Up Right	30 seconds	15
Advanced Bobbing	1 minute	10
Reverse Sides Extention	30 seconds	15
Lap Swimming - Interval	6½ minutes	18

Middle Gear 30 minutes

Front Flutter	2 minutes	8
Back Flutter	2 minutes	8
Front Flutter	1 minute	8
Alternate Leg Rearward Bobbing	1 minute	9
Knees Up, Front	1 minute	14
Knees Up, Back	1 minute	14
Alternate Leg Sideward Bobbing	1 minute	9
Front and Back Extensions	1 minute	15
High Bobbing	3 minutes	12
Reverse Sides Extension	1 minute	15
Progressive Bobbing	2 minutes	11
Rub-A-Dub-Dub	2 minutes	16
Left Leg Raiser	15 seconds	16
Right Leg Raiser	15 seconds	16
Alternate Leg Raisers	30 seconds	17
High Bobbing	1 minute	12
Lap Swimming - Interval	10 minutes	18

High Gear 60 minutes

Front Flutter	3 minutes	8
Back Flutter	3 minutes	8
Advanced Bobbing	3 minutes	10
Left Knee Up, Back	1 minute	14
Right Knee Up, Back	1 minute	14
Knees Up, Back	1 minute	14
High Bobbing	3 minutes	12
Knees Up, Front	1 minute	14

High Gear (continued)

Alternate Leg Rearward Bobbing	2 minutes	9
Front and Back Extensions	2 minutes	15
Alternate Leg Sideward Bobbing	2 minutes	9
Reverse Sides Extensions	2 minutes	15
Bounding in place with Arm Stretch	3 minutes	5
Progressive Alternate Leg Forward Bobbing	3 minutes	11
Rub-A-Dub-Dub	3 minutes	16
Left Leg Raiser	30 seconds	16
Right Leg Raiser	30 seconds	16
Power Bobbing	1 minute	12
Alternate Leg Raiser	30 seconds	17
Bounding in place with Arm Stretch	3 minutes	5
Toe Bounce	90 seconds	3
Leg Swing Outward	2 minutes	7
Lap Swimming - Interval	Remainder	18

CONCLUSION

Swimming is unique in that age is no hindrance and individuals of varying exercise tolerance levels can utilize this activity to develop organic vigor and to improve the blood circulation. Obviously those in poor condition must work slowly and progressively. It has taken many years for most adults to get out of good physical condition. One should be patient and realize that rebuilding the heart, lungs, and body may take a long period of time. A commitment to regularity and gradual build-up will pay off. There may be speed limits but no age limits for either sex. Daily workouts are recommended, but gains can be made with 30-40 minutes of water work 3-5 times per week. Train! Don't strain!

☆U.S. GOVERNMENT PRINTING OFFICE: 1973-727-985/788 3-1